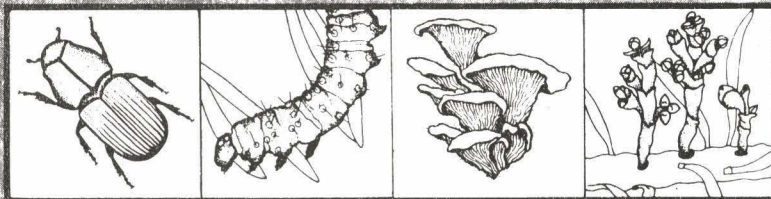


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POTENTIAL DEFOLIATION IN 1982 BY A PONDEROSA PINE NEEDLE MINER IN THE FLATHEAD INDIAN RESERVATION

by

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ABSTRACT

Another outbreak of a ponderosa pine needle miner, *Coleotechnites* sp., was detected on several thousand acres near Arlee, Montana, on the Flathead Indian Reservation during 1981. Results of an evaluation in February 1982 indicate defoliation will be light in all infested ponderosa pine stands during 1982.

INTRODUCTION

The last infestation of ponderosa pine needle miner, *Coleotechnites* sp.,^{1/} within the Flathead Indian Reservation caused defoliation from 1977 to 1979. Populations were very low during 1980, but moderate defoliation was noticed during July 1981 in several areas of ponderosa pine near Arlee, Montana. The mild winter of 1980-81 may have been favorable to the survival of overwintering larvae in needles.

Description of damage and life history in Montana has been discussed by Tunnock and Meyer (1978). This miner's life history and habits resemble those described by Stevens (1973) for a species in ponderosa pine in Colorado. Briefly, overwintering larvae begin feeding inside needles by April and pupate in needles by mid-July. Moths lay eggs on current and some older needles along branch tips. Eggs probably hatch about mid-September and larvae eat into needles to start mines for winter.

This report is to summarize results of an evaluation to determine potential defoliation in 1982.

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^{1/} Lepidoptera: Gelechiidae



METHODS

Scott Tunnock, Hubert Meyer, Roland Becker, and Terry Reedy, BIA, Ronan office, sampled seven defoliated areas (plots) near Arlee, Montana, on February 26 (figure 1). Within each area branch tips were cut with an extendable pole pruner from five 12-inch mid-crown trees. Those were taken to the laboratory for examination.

One hundred needles from each branch tip were examined for new mines. New mines were found mostly in 1981 and 1980 needles, but some miners were found in 1979 needles. Total needles examined per plot was 2,500. Percent needles infested per plot was determined.

RESULTS AND DISCUSSIONS

Percent of needles infested on the seven sample plots is shown in table 1. They range from 1.2 to 9.8 percent infested. From this we predict light defoliation within the area during 1982. This will be a decrease in defoliation west and southwest of Arlee where moderately defoliated ponderosa pine stands were detected during 1981.

Table 1.--Percentage of needles infested by a ponderosa pine needle miner in the Flathead Indian Reservation during February 1982.

Area	Location	Percent needles infested on plot	Potential defoliation in 1982
W of Arlee	T16N, R20W, S9	6.9	Light
W of Arlee	T16N, R20W, S10	9.8	Light
SW of Arlee	T15N, R20W, S23	3.1	Light
S of Arlee	T16N, R19W, S33	7.0	Light
S of Arlee	T16N, R19W, S31	1.2	Light
SE of Arlee	T16N, R19W, S15	6.4	Light
Jocko Canyon	T16N, R19W, S10	1.2	Light

We suspect that other ponderosa pine stands on the Reservation that were infested in 1977-1979 still harbor endemic populations of the miner. We will give all stands close scrutiny during 1982 aerial surveys.

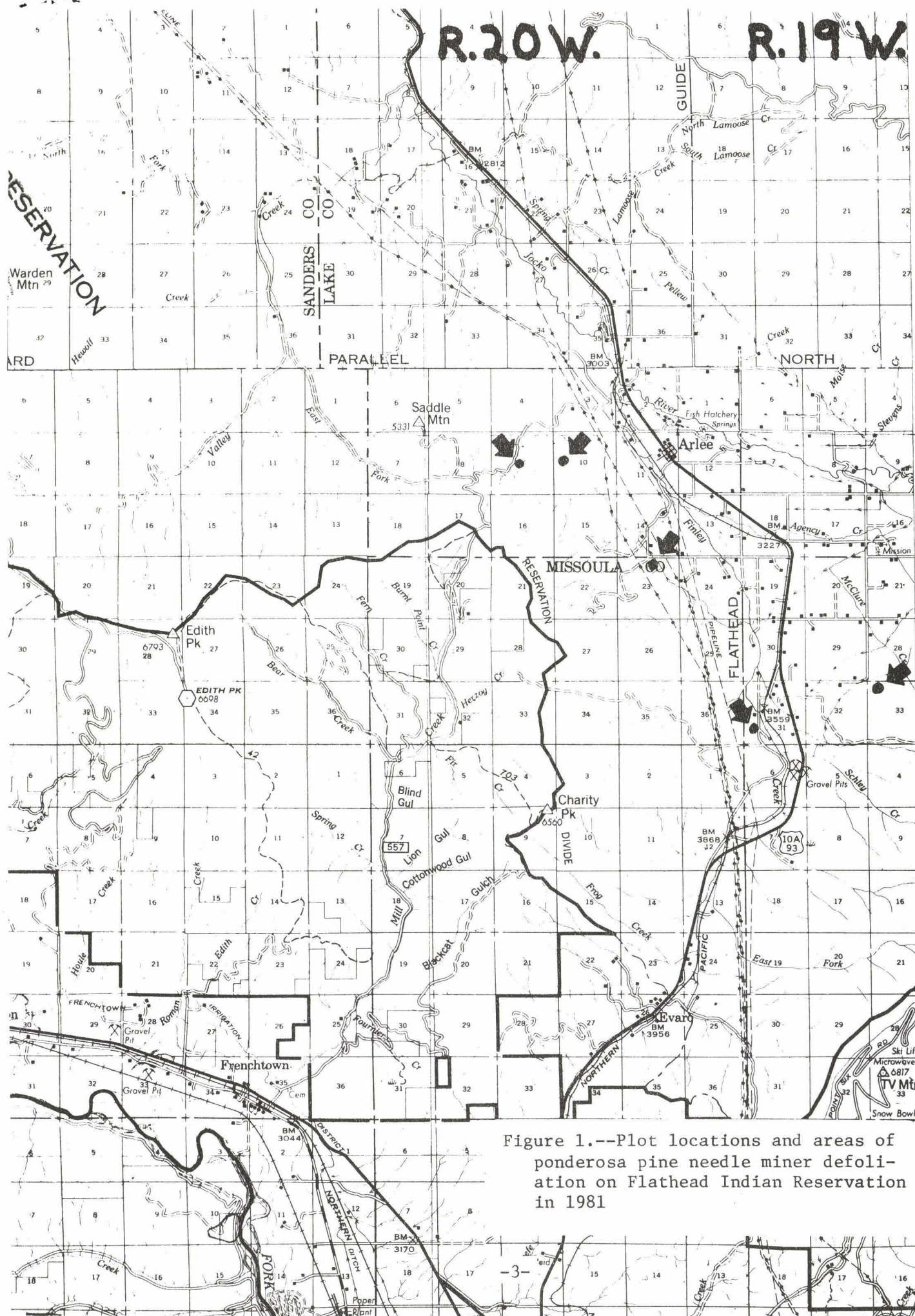


Figure 1.--Plot locations and areas of ponderosa pine needle miner defoliation on Flathead Indian Reservation in 1981

REFERENCES CITED

Stevens, R. E.

1973. A ponderosa pine needle miner in the Colorado Front Range.
USDA For. Serv., Rocky Mtn. For. and Range Exp. Sta., Fort Collins,
Colorado. Res. Note RM-228. 3 p.

Tunnock, S. and H. E. Meyer.

1978. A ponderosa pine needle miner outbreak in the Flathead Indian
Reservation and Missoula Valley and potential defoliation for 1978.
USDA For. Serv., State and Priv. For., Report 78-10. 3 p.